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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/643,694	08/18/2003	Young-Jun Kim	4611-018	5085

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EXAMINER

CUTLER, ALBERT H

ART UNIT	PAPER NUMBER
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2622

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/03/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/643,694	Applicant(s) KIM ET AL.	
	Examiner Albert H. Cutler	Art Unit 2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

3/19/2007

- 1) ☒ Responsive to communication(s) filed on ~~18 August 2003~~.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) 6-10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

1. This office action is responsive to application 10/643,694 filed on August 18, 2003. Claims 1-10 are pending in the application.

Election/Restrictions

2. Claims 6-10 withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species 1, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on March 19, 2007.

Information Disclosure Statement

3. The Information Disclosure Statement (IDS) mailed on October 16, 2003 was received and has been considered by the examiner.

Priority

4. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

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applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Wu(U.S. Patent Application Publication 2003/0090588).

Consider claim 1, Wu teaches:

A digital camera module(figures 3, 6, and 7, paragraph 0002), comprising:

a barrel(350, figures 3, 6, and 7) having external threads on an external surface thereof(see figure 3), with one or more lenses set in the barrel(paragraph 0026), and an assembling plate mounted to an upper surface of the barrel(See figures 3, 6, and 7. The barrel(350) has a circular shaped assembly plate mounted on its upper surface.);

a camera module housing("Camera lens frame", 300, figures 3, 6, and 7) assembled with the barrel(350, see figures 3, 6, and 7, paragraph 0026), the housing having an internally threaded opening through which the barrel is mounted to the housing(see figure 3);

an image sensor(See figure 3, the image sensor, although not labeled, is shown as a square box over which the camera module housing(300) is placed.) converting an image of a subject into an electrical image signal(Image data from the sensor is obtained and saved by the motherboard(110), paragraph 0026.); and

a substrate having an electronic circuit(motherboard(110), paragraph 0026), with the image sensor installed on the substrate(see figure 3, paragraph 0026).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claims 2, 3, and 4/2, 4/3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu in view of Nakajoh(U.S. Patent Application Publication 2003/0025826).

Consider claim 2, and as applied to claim 1 above, Wu teaches of a lens module with an assembly plate(see claim 1 rationale). However, Wu does not explicitly teach that the assembling plate is made of a magnetic material or a metal sheet which is magnetically attracted to a magnet.

Nakajoh is similar to Wu in that Nakajoh is concerned with creating an efficient camera module(see title, figures 1-7, paragraph 0004). Nakajoh similarly teaches of an

image sensor(12, figure 4) and a lens barrel(15, figure 4), the lens barrel(15) aligning a lens(14) with the image sensor(12). See figure 4, paragraphs 124-133.

However, in addition to the teachings of Wu, Nakajoh teaches that the lens barrel is made of metal(i.e. a metal sheet, paragraph 0186). Nakajoh teaches that the lens barrel structure is formed by metal press molding. Because the assembly plate of Wu is mounted on the surface of the lens barrel, and is thus part of the lens barrel structure, the entire lens barrel structure of Wu can be formed via metal press molding.

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention to use metal press molding as taught by Nakajoh to manufacture the assembly plate taught by Wu for the benefit that a structure formed through metal press molding creates sufficiently reliable airtight sealing, and presents temperature-humidity resistance at a low cost(Nakajoh, paragraph 0186).

Consider claim 3, and as applied to claim 2 above, Wu teaches of a lens barrel with an assembly plate(see claim 1 and 2 rationale). However, Wu does not explicitly teach that the assembly plate is provided with a baffle so as to prevent an incidence of undesired light beams to the lenses of the barrel.

Nakajoh teaches of using baffles to prevent an incidence of undesired light beams on the lenses of the barrel. See figure 4, Nakajoh teaches of two baffles holding a plate of glass(20). These baffles provide an aperture(13), and thus prevent undesired light from reaching the lens(16). Baffles such as these can be placed on the assembly plate taught by Wu.

Consider claim 4, and as applied to claim 2 above, Wu further teaches that the assembly plate is provided with a plurality of tool holes so as to hold the barrel during a process of assembling the barrel with the housing(See figures 3, 6, and 7. The assembly plate has two holes on opposite sides for screwing the lens barrel into the camera module housing.).

Consider claim 4, and as applied to claim 3 above, Wu further teaches that the assembly plate is provided with a plurality of tool holes so as to hold the barrel during a process of assembling the barrel with the housing(See figures 3, 6, and 7. The assembly plate has two holes on opposite sides for screwing the lens barrel into the camera module housing.).

10. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wu in view of Harada(U.S. Patent 6,335,759).

Consider claim 5, and as applied to claim 1 above, Wu teaches that the assembly plate is mounted on the upper surface of the barrel(see figures 3, 6, and 7). However, Wu does not explicitly teach that the assembly plate is bonded to the barrel, or of using an adhesive.

Harada is very similar to Wu, in that a housing(5) covers an image sensor(2) which is attached to a motherboard(1). Harada is also similar in that a lens barrel(6) is

screwed into the housing(5, see column 3, lines 3-21). Likewise, Harada teaches of an assembly plate(62) mounted on the lens barrel(6, see figures 1 and 2a).

However, in addition to the teachings of Wu, Harada teaches that the assembly plate(62) is bonded to the barrel(6, column 3, lines 10-21). Harada teaches that the assembly plate(62) allows a user to screw the lens barrel(6) into the housing(5, column 3, lines 10-21).).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention to create a bond as taught by Harada between the assembly plate and lens barrel taught by Wu, for the benefit that bonding the assembly plate and lens barrel allows a user to simply and easily screw the lens barrel into the housing(Harada, column 3, lines 12-15).


The combined invention of Harada and Wu does not explicitly teach that the bond between the assembly plate and the lens barrel is created using an adhesive. However, **Official Notice** (MPEP § 2144.03) is take that both the concepts and advantages of using an adhesive to bond two surfaces together are well known and expected in the art. It would have been obvious to a person having ordinary skill in the art at the time of the invention to use an adhesive to bond the assembly plate to the lens barrel as taught by the combination of Wu and Harada for the benefit that adhesives are cheap, simplistic in use, readily available, and potentially reversible in the case of alignment errors between two adhering objects.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Albert H. Cutler whose telephone number is (571)-270-1460. The examiner can normally be reached on Mon-Fri (7:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ngoc-Yen Vu can be reached on (571)-272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AC


NGOC-YEN VU
SUPERVISORY PATENT EXAMINER